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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**  
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December 10, 1999

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Re: Del Amo Superfund Site  
Unilateral Administrative Order, U.S. EPA Docket No. 99-08

Dear Addressees:

Enclosed with this letter is an amendment to the Statement of Work and Work Plan for the Unilateral Administrative Order for Remedial Action ("Order") issued to you on May 3, 1999, by the United States Environmental Protection Agency, Region IX ("EPA") pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended

("CERCLA"), 42 U.S.C. § 9606(a). The Order is for remedial action at the Waste Pits Operable Unit of the Del Amo Superfund Site in Los Angeles, California. This amendment is effective on the date of this letter.

If you have any questions of a technical nature, contact Dante Rodriguez of this office at (415) 744-2239, or if you have any questions of a legal nature, contact Michele Benson of our Office of Regional Counsel at (415) 744-1369.

Sincerely yours,

A handwritten signature in black ink that reads "Keith Takata" followed by a horizontal line.

Keith Takata  
Superfund Division Director

Enclosures: Amendment #1  
Revised Work Plan sections 1, 3, and 7

cc: Thomas W. Kearns, Corporate Legal, Shell Oil Company  
Nicolas M. Kouletsis, Pepper Hamilton, LLP  
Stephen McKae, Wendel, Rosen, Black & Dean LLP  
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Karl Fingerhood, U.S. Department of Justice, Environmental Enforcement  
Gloria Conti, Department of Toxic Substances Control  
Isabella Alasti, Office of Legal Counsel, DTSC  
Dennis A. Ragen, Deputy Attorney General, State of California

## AMENDMENT #1

This is an amendment to the Statement of Work and Work Plan for the Unilateral Administrative Order for Remedial Action, U.S. EPA Docket No. 99-08, for the Waste Pits Operable Unit of the Del Amo Superfund Site. This amendment is effective as of the date of its transmittal letter.

**Item 1.** Attachment 2: "Statement of Work," Section 1.2, "Purpose," is amended as follows:

"1.2 Purpose

The purpose of this Statement of Work (SOW) is to set forth the framework and requirements for implementing the Remedial Action (RA) at the Waste Pits Operable Unit of the Del Amo Superfund site in accordance with the objectives of the Remedial Design (RD). The Record of Decision (ROD) issued on September 5, 1997, defines the selected remedy. The RA is the implementation phase of site remediation or construction of the remedy, including necessary operation and maintenance, performance monitoring, and special requirements (such as deed restrictions). The RA is based on the RD to achieve the remediation standards specified in the ROD. The RA will be completed in two components. The first component is the construction, operation and maintenance of the RCRA equivalent cap, **soil vapor extraction system (without treatment unit)**, and soil gas monitoring system; the second component is the installation, operation and maintenance of the soil vapor extraction ~~system~~ **treatment unit**. The goal for completion of the construction phase of the ~~RCRA equivalent cap and soil vapor monitoring first~~ component is December 31, 1999. The goal for the completion of the ~~installation of the soil vapor extraction system~~ second component is **September 30, 2000.**"

**Item 2.** Attachment 2: "Statement of Work," Section 2.1.1, "Develop RA Work Plan," 5<sup>th</sup> sentence, is amended as follows:

"The Respondents shall submit the second component of the Work Plan to EPA (and 2 copies to DTSC) for review and approval pursuant to Section XIV of the Order within ~~120~~ **310** days after the Respondents select an approved Project Manager for the construction of the first component."

**Item 3.** Attachment 2: "Statement of Work," Attachment 1 "Summary of Submittals for the Remedial Action at Del Amo Superfund Site, Waste Pits Operable Unit," 2<sup>nd</sup> line item "2.1.1 RA Work Plan, Component 2," is amended as follows:

The DUE DATE requirement for this line item is amended to read: "within ~~120~~ **310** days after Respondents select approved project manager for first component (RCRA equivalent cap)".

**Item 4.** Remedial Action Work Plan, dated April 28, 1999, is amended by replacing sections 1, 3, and 7 with the revised pages enclosed.

REVISIONS  
to  
*"Remedial Action Work Plan  
for the  
Del Amo Superfund Site  
Torrance, California"*  
dated April 28, 1999

REVISED Sections 1, 3, and 7

December 6, 1999

## **Section 1**

### **INTRODUCTION**

#### **1.1 PURPOSE OF THE REMEDIAL ACTION WORK PLAN**

The purpose of this Remedial Action Work Plan (RAWP) is to provide an overall methodology for installing the components of the Remedial Design<sup>1</sup> (RD) including a description of construction activities, operations and maintenance, performance monitoring, an overall management strategy for the Remedial Action (RA), and the technical approach for the remediation and construction activities in accordance with the final design, the Statement of Work for Remedial Action<sup>2</sup> (SOW), and the Record of Decision<sup>3</sup> (ROD) for the Del Amo Waste Pits Operable Unit (Waste Pits OU). Components of the remediated Waste Pits OU that require installation include a RCRA-equivalent cap system, a cap gas collection and treatment system, surface drainage features, gabion wall, security fence, soil vapor extraction wells (without conveyance or treatment unit), and soil vapor monitoring systems. A second component shall be added to this Work Plan at a later date for installation and operation of the soil vapor extraction treatment unit.

The RAWP has been developed in compliance with the requirements of the Administrative Order for Remedial Action (Order); United States Environmental Protection Agency (US EPA) Docket No. 99-08 issued on May 3, 1999. The Order is subsequent to the Record of Decision (ROD) for the Waste Pits OU, Del Amo Facility Proposed Superfund Site, Los Angeles, CA on 5 September 1997. The ROD presents the selected Remedial Action (RA) for the Waste Pits OU. The RA was chosen in accordance with Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Contingency Plan (NCP).

## 1.2 SITE HISTORY AND DESCRIPTION

The Waste Pits OU is located in Los Angeles, California immediately north of the City of Torrance. It includes Lots 36 and 37 of the Los Angeles County Assessor's Map Number 7351-034 Northwest (United States Geological Survey (USGS), 1981). As shown in the Drawing C-3 at the end of this section, the Waste Pits Area is located midway between Vermont Avenue (to the east) and Normandie Avenue (to the west) and is bounded on the north and south, respectively, by the Los Angeles Department of Water and Power (LADWP) easement and Del Amo Boulevard. An electrical power transmission right-of-way borders the Waste Pits OU to the north; and one major underground petroleum and petro-chemical pipeline corridor is located within Waste Pit OU boundaries on the southern side of the property.

The Waste Pits OU includes two adjoining parcels of land (Lots 36 and 37), which contain six small rectangular pits (2-series pits) and three large rectangular impoundments (1-series pits) as shown in Drawing C-3 at the end of this section. These were used for the disposal of wastes and waste liquids during operation of the synthetic rubber manufacturing facility. The approximate subsurface profile below the waste-pits is shown on Figure 20 of Appendix A of the *Prefinal Remedial Design Report*, Parsons, 1999).

There are six waste pits and two impoundments located on Lot 36. Pits 2-A through 2-F are smaller rectangular pits located on the western side of this property as shown Figure 1.2-1. These pits are designated the 2-series pits. On the eastern side of Lot 36 are 1-series pits 1-B and 1-C, which are large rectangular impoundments.

Immediately east of Lot 36 is Lot 37. This parcel is the location of a former large rectangular impoundment designated Pit 1-A. Contaminated soil from Pit 1-A, approximately the same size as Pits 1-B and 1-C, was excavated to depths of 6 feet at east side and to 25 feet at west side in four phases from 1982 to 1984. This was completed under the direction of the California Department of Health Services (DHS, which is now under California EPA's Department of Toxic Substances Control [DTSC]). Each of the other waste pits is currently covered with fill soils ranging from two to 15 feet thick.

Waste disposed of in the 2- and 1-series impoundments, included viscous and aqueous process wastes, respectively. The 2-series pits received an aluminum chloride complex, which contained a large amount of hydrocarbons. The 2-series pits also received heavy impurities and tars, including sulfur tars, from the styrene purification process. The 1-series impoundments, which were used as evaporation ponds, received various materials, including acid sludge (a by-product of the treatment of benzene with sulfuric acid), kaolin clay catalyst (used to dehydrate denatured ethyl alcohol and produce ethylene), and lime slurry (a by-product of a zeolite softening system). The evaporation ponds also received heavy hydrocarbons that had settled at the bottom of water skimmers in the styrene plant. The ponds were periodically dried and accumulated solids were excavated and removed.



The US EPA approved a RCRA-equivalent cap and SVE system as the remedial action for the Del Amo Waste Pits OU RD and RA. The RA construction sequence are more fully described in Section 3.

### **1.3 SITE DESIGNATION AND ACCESS**

As the final end use for the Waste Pits OU is still being evaluated, the Drawings reflect a non-irrigated, naturally vegetated open space for the site.

General access to the Waste Pits OU for contractors performing operations and maintenance activities supporting the remedial action shall be coordinated with the Construction Manager (CM). Access is discussed in Appendix C, Section 4.

### **1.4 RELATED PROJECT DOCUMENTS**

Several documents that contain U.S. EPA directives, detailed site descriptions, relevant historical information, and design information include the following:

- Administrative Order for Remedial Design (Order); United States Environmental Protection Agency (US EPA) Docket No. 98-06 issued on May 5, 1998 and all documents submitted to U.S. EPA in response to the Order.
- Administrative Order 99-08 for Remedial Action (RA) dated May 3, 1999, and all documents submitted to U.S. EPA in response to the Order.
- Health and *Safety Plan* for On-Site Remedial Design Support Activities at the Del Amo Waste Pits Operable Unit (Parsons, 1999)

A complete list of drawings and specifications is referenced in Section 8.

### **1.5 OVERVIEW OF THE SELECTION OF THE REMEDIAL ACTION**

#### **1.5.1 Description of Selected Remedy**

The ROD addressed waste and contaminated soil within the 5-acre Waste Pit Area of the Del Amo Site (Drawing C-3). The ROD selected a remedy for the Waste Pits OU that was final with respect to potential exposure to waste pit contamination at or near the ground surface. The ROD selected an interim remedy with respect to the groundwater contamination, providing measures to prevent migration of contamination from the waste pits or surrounding soil to groundwater at levels exceeding acceptable standards as defined in the ROD (see Performance Standards below). The subsequent Dual Site Operable Unit Groundwater ROD selected the final remedy for groundwater contamination, incorporating the interim remedy selected in the Waste Pits ROD.

The selected remedy for clean-up of the Waste Pits Area consists of the following components for Phases I and II of construction:

#### **Phase I**

- A RCRA-equivalent cap,
- Soil vapor monitoring,
- Soil vapor extraction (SVE) wells,
- Surface water controls,
- Security fencing,
- Deed restrictions, and
- Long-term operation and maintenance of the cap and cap gas collection system.

#### Phase II

- SVE conveyance and treatment system, and
- Long-term operation and maintenance of the SVE wells, conveyance, and treatment systems.

### 1.5.2 Remedy Performance Standards

The ROD performance standards are defined in Attachment 6 of the Order's Statement of Work. The objectives of the cap are:

- (1) to prevent direct human contact with contaminants;
- (2) to prevent generation of uncontrolled runoff and wind blown dust;
- (3) to prevent the emission of contaminants into the air;
- (4) to prevent rainwater from washing through the waste pits and carrying contaminants into the groundwater; and
- (5) to prevent rainwater from washing through the contaminated vadose zone soils below the pits and carrying them into the groundwater.

The cap was designed to meet the requirements identified in the ROD including 22 CCR 66264.310. Associated monitoring was designed to demonstrate compliance with performance standards and ARARs, and to help determine whether any vapors are migrating or spreading laterally out from under the cap.

The objectives of the SVE system are:

- (1) To protect groundwater from contaminants that migrate out of the pits;
- (2) To protect groundwater from contaminants that migrate out of the vadose soil below the pits; and
- (3) To protect groundwater from contaminants in the soil below the pits in the event that the water table rises into the contaminated soil.
- (4) To prevent lateral migration of vapors

The SVE system was designed to meet the requirements of the ROD, including the

SVE cleanup standards. The procedures for operating the system to achieve the performance standards and procedures for determining system shut-off and restart are described in the following design documents:

1. "Technical Memorandum No. 1, Revision 2, SVE Performance Standard Modeling, Del Amo Waste Pits Operable Unit," with transmittal letter from Fredianelli (Parsons) to Rodriguez (EPA) dated 7/9/98.
2. Letter from Rodriguez (EPA) to Fredianelli (Parsons) re: SVE Performance Standard, dated 9/9/98.
3. "Draft (for internal discussion only), Technical Memorandum No. 2, SVE Performance Standards, Del Amo Waste Pits Operable Unit," dated 10/30/98.
4. Meeting Minutes for 11/4/98 "Meeting with EPA," revised and transmitted on 11/24/98 from Parsons to EPA.
5. "Technical Memorandum No. 3, SVE Operation and Performance Monitoring, Draft," dated 12/4/98.
6. Email from Rodriguez (EPA) to Fredianelli (Parsons), re: "Comments on Technical Memorandum #3," dated 12/29/98.
7. "Additional EPA Comments, Draft Technical Memorandum No. 3," dated 1/4/99.
8. Email from Bourke (C2REM) to Rodriguez (EPA), re: "Will incorporate comments re: Technical Memorandum No. 3 into OM&M Plan rather than revise Technical Memorandum No. 3," dated 1/7/99.

#### 1.6 ORGANIZATION OF THE RAWP

The remainder of this plan is organized as follows:

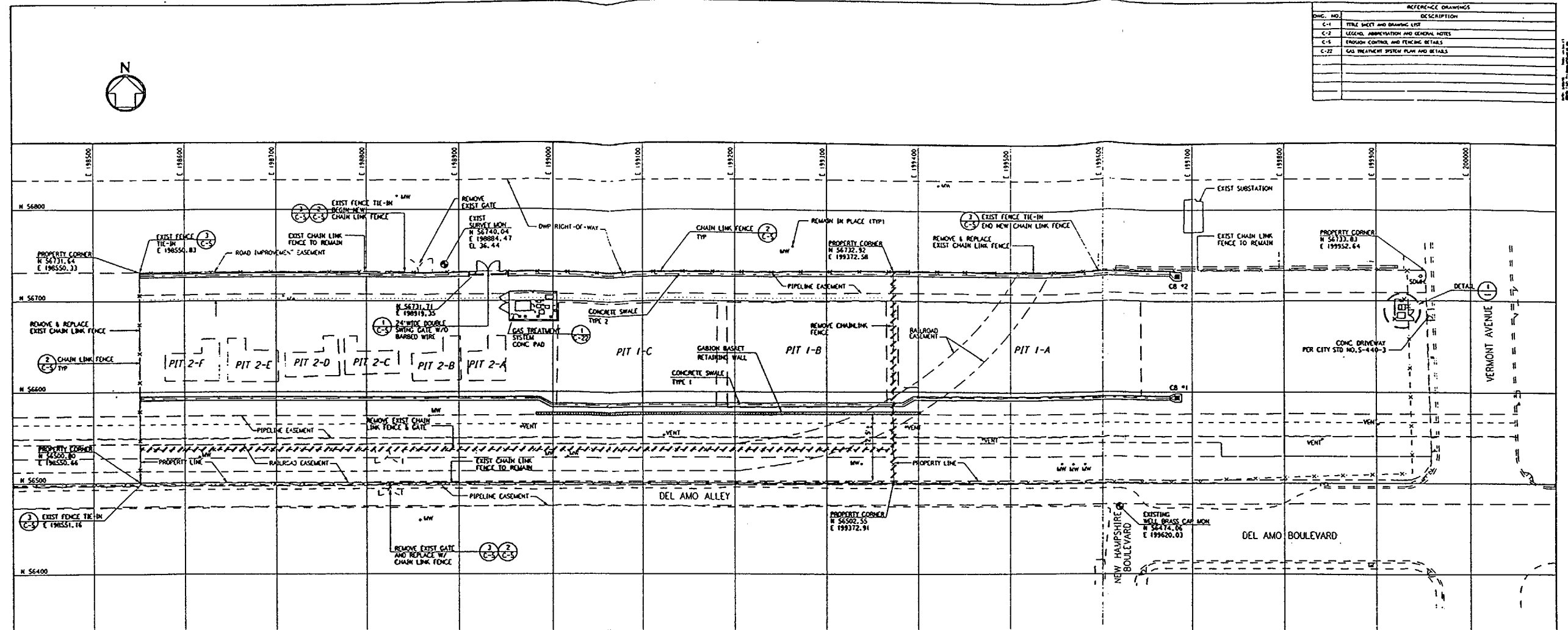
- Section 2 presents a description of the remedial team organization;
- Section 3 presents a description of the RA, including the subcontracting strategy and the construction phasing;
- Section 4 presents the proposed construction implementation schedule;
- Section 5 addresses the Health and Safety Plan (Parsons Engineering Science, February 3, 1999) for the RA<sup>4</sup>;
- Section 6 presents the permit requirements and compliance strategy for the RA;
- Section 7 presents the proposed schedule for reporting to the US EPA and the procedures that will be followed for project closure; and
- References including drawing and construction specification references are presented in Section 8.

The following appendices contain supporting documentation for the RAWP:

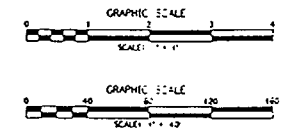
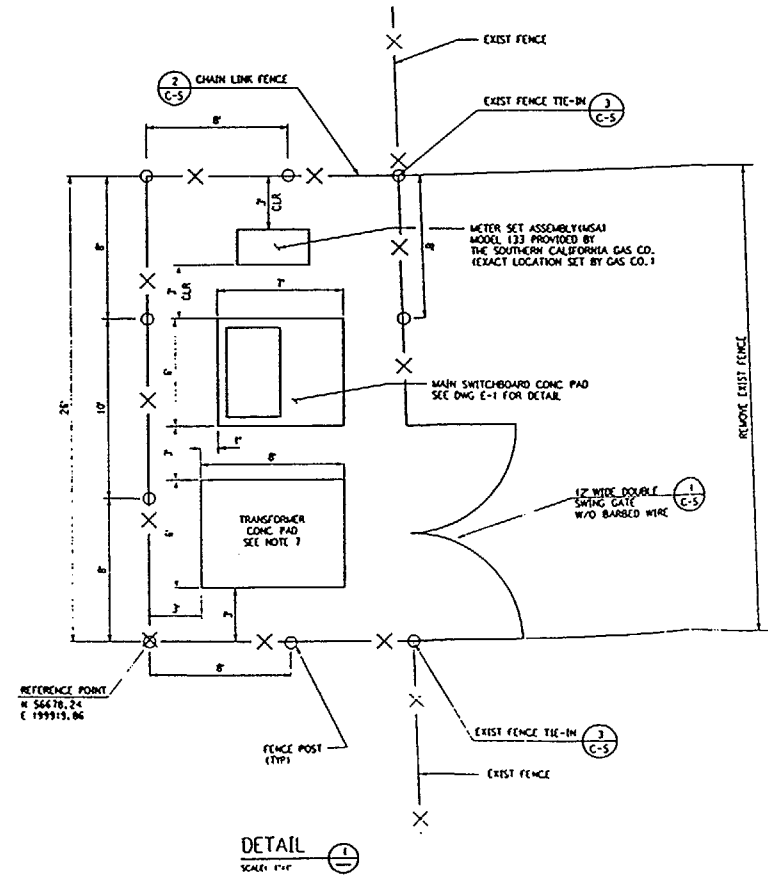
- Appendix A includes the Dust Emissions Control Plan to meet the substantive requirements for particulate emissions as regulated by SCAQMD;
- The Stormwater Pollution Prevention Plan (SWPPP) is provided in Appendix B;
- The updated Site Management Plan (SMP) for the RA is provided in Appendix C;
- Appendix D contains the Statement of Work for Security Guard Service during the RA; and
- Appendix E contains a list of acronyms referenced in this RAWP.

**Drawing C-3  
Overall Site Plan**

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- NOTES:**
1. FOR GRADING PLAN OF TOP OF FOUNDATION LAYER, SEE DRAWINGS C-6 & C-7.
  2. FOR GRADING PLAN OF TOP OF FINAL COVER, SEE DRAWINGS C-8 & C-9.
  3. FOR CAP GAS COLLECTION SYSTEM PLANS, SEE DRAWINGS C-15 AND C-16.
  4. FOR SUE PIPING SYSTEM PLANS, SEE DRAWINGS C-17 AND C-18.
  5. FOR STORM DRAIN PLAN, SEE DRAWING C-12.
  6. FOR EXISTING UTILITY LOCATION SEE DRAWING C-12.
  7. DWP WILL SUPPLY TRANSFORMER PAD CONSTRUCTION DETAILS DRAWING.



<b>DAMES &amp; MOORE</b> Santa Ana, California		<b>GeoSYNTEC CONSULTANTS</b> Huntington Beach, California	
<b>PARSONS ENGINEERING</b> RECOMMENDATION, BRANCH PASADENA, CALIFORNIA		<b>DEL AMO WASTE PITS OPERABLE UNIT TORRANCE, CA</b>	
PROJECT NO. 124644-0000		OVERALL SITE PLAN	
DATE: 03-23-99		SCALE: 1" = 23'	
BY: [Signature]		CHECKED: [Signature]	
APPROVED: [Signature]		DATE: 03-23-99	

- <sup>1</sup> Dames & Moore, GeoSyntec Consultants, and Parsons Engineering Science, 19 February 1999, *Prefinal Design Report*, Del Amo Waste Pits Operable Unit.
- <sup>2</sup> United States Environmental Protection Agency, Region No. 9, 3 May 1999, *Administrative Order for Remedial Action (US EPA) Docket No. 99-08*, Del Amo Waste Pits Operable Unit.
- <sup>3</sup> United States Environmental Protection Agency, Region No. 9, 5 September 1997, *Record of Decision (ROD)*, Del Amo Waste Pits Operable Unit, Del Amo Facility Proposed Superfund Site, Los Angeles, California.
- <sup>4</sup> Parsons Engineering Science, 3 February 1999, *Health and Safety Plan*, Del Amo Superfund Site, Torrance, California.

## SECTION 3

### SCOPE OF REMEDIAL ACTION ACTIVITIES

#### 3.1 OVERVIEW AND CONSTRUCTION SEQUENCING

This section discusses the proposed method of implementation for the Remedial Action (RA): a RCRA-equivalent cap system, a cap gas collection and treatment system, surface drainage features, gabion wall, security fence, soil vapor extraction wells, and soil vapor monitoring systems. The 90% Prefinal design (hereinafter referred to as the integrated Remedial Design [RD]) of the containment system was submitted to the EPA on February 19, 1999 and was approved with comments on March 29, 1999.

The implementation schedule for the integrated remedial action is presented in Section 4 of this document. Operational plans for RA presented in this section are consistent with the RD drawings and the technical specifications. Many aspects of the RA, particularly with regard to cap construction, will be at the discretion of the selected remedial subcontractor. Construction quality assurance measures to ensure that construction meets the requirements of the technical specifications are presented in the Construction Quality Assurance Plan<sup>1</sup>. All subcontractors will be required to submit in detail their execution plan for completing the work to the RA Contractor.

#### 3.2 Remedy Overview and Sequencing

As stated in Section 1.5.1, the ROD selects a final remedy for the Waste Pits OU addressing potential exposure to waste pit contamination at or near the ground surface. The remedy selected in the ROD is also an interim remedy for the Groundwater OU, providing measures to prevent migration of contamination from the waste pits or surrounding soil to groundwater at levels exceeding acceptable standards as defined in the ROD.

The selected remedy for clean-up of the Waste Pits Area consists of the following components for Phases I and II of construction:

##### Phase I

- A RCRA-equivalent cap,



- Soil vapor monitoring,
- Soil vapor extraction (SVE) wells,
- Surface water controls,
- Security fencing,
- Deed restrictions,
- Long-term operation and maintenance of the cap and cap gas collection system, and
- SVE wells.

#### Phase II

- SVE conveyance piping and treatment system, and
- Long-term operation and maintenance of the SVE wells, conveyance, and treatment systems.

Several features have been incorporated into the RD<sup>2</sup> to enhance the function and reliability of the containment system. These design features and their associated benefits are discussed in the following sections.

The RA Contractor, Parsons ES, will provide overall construction management and coordination. GeoSyntec, an independent contractor, will conduct construction quality assurance. All remedial construction activities (listed below) will be subcontracted. The planned sequence of remedial and post-remedial construction activities is provided in Section 3 of the Prefinal Design Report and is summarized as follows:

- Mobilization and temporary facility installation;
- Foundation grading;
- Monitoring and extraction well installation;
- RCRA-equivalent cap installation;
- General civil work including drainage system and fence installation;
- Installation of cap gas treatment system;
- Utilities installation; and
- Landscaping and temporary irrigation.

The proposed RD requires proven construction means and methods to implement. Generally, the Site does not pose unusual challenges for access, material applications or sequencing of construction. Due to previous investigations, the site conditions are reasonably understood thereby minimizing the potential for unanticipated conditions. During the detailed engineering design a constructability review was performed to identify and rectify conflicts, impossible or difficult to construct design details and

omissions, and to identify any potential design changes that would result in a reduction in construction costs.

### 3.3 Site Management Plan

A revised draft Site Management Plan (SMP)<sup>3</sup> is provided in Appendix C, which addresses site access, security, contingency procedures, management responsibilities, decontamination, and waste management during construction.

### 3.4 Contracting Strategy (Work Packages)

Listed below are the work package definitions with recommended contracting methods. Work packages may change as the RD/RA progresses. During the bid process work packages may be combined based upon feedback from potential bidders during the pre-qualification phase. Contractors capable and qualified to perform the work described in more than one work package may be awarded more than one package if economics demonstrate a cost savings.

#### 3.4.1 Contractor Pre-Qualification

Listed below are the major items of Pre-Qualification Criteria:

##### 3.4.1.1 Safety

- Must have established and proven safety plan to meet requirements of Project Safety Plan.

##### 3.4.1.2 Technical Qualifications/Experience

- Must have qualified personnel and track record of successful completion of similar type projects.

##### 3.4.1.3 Financial

- Must exhibit sound financial background to demonstrate capability for successfully completing this size project.

##### 3.4.1.4 Current Work Load

- Must show current workload to demonstrate affects this project would have on total resources.

#### 3.4.2 Site Preparation, Temporary Facilities and Cap Installation

##### 3.4.2.1 Scope of Work

The scope of work for the Site Preparation, Temporary Facilities and Cap Installation work package will include the following:

- Clearing and grubbing
- Demolition and Removal of existing fencing

- Installation of construction gates (vehicle and pedestrian) and temporary fencing
- Erosion Control
- Storm Drainage System - On Site
- Storm Drainage System - D2 Sewer Connection
- Foundation, Cut and Subgrade Compaction
- Foundation, Fill and Compaction
- Horizontal and vertical control monuments
- Material storage area - East area of Site
- Foundation Finish Grading
- Other site support activities including handling and containerizing of generated wastes.
- Cap Installation
  - Sand Layer
  - Gabion Retaining Wall
  - GCL
  - 40 mil VFPE Geomembrane<sup>1</sup>
  - Geotextile
  - Drainage Aggregate
  - Cover Soil
- Gas Collection Piping
  - CAP Gas Piping
  - Air Inlet Piping

#### 3.4.2.2 Contract Type

The Site Preparation and Temporary Facilities work package will be a competitively bid lump sum subcontract. Bidders will be requested to quote unit prices based on estimated quantities for items with potential quantity variations (i.e. contaminated soil handling, etc.) All bidders will be pre-qualified.

#### 3.4.3 SVE Well Package

##### 3.4.3.1 Scope of Work

The scope of work for the SVE Well Package will include:

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<sup>1</sup> Proposal requests will include a listing of Qualified Sub-tier Contractors for this item of work with the option for bidders to submit alternates as "Equal to Qualified List".

- Boring and development of SVE extraction wells (23)
- Boring and development of SVE monitoring wells
  - Perimeter monitoring wells (12)
  - Standard monitoring wells (14)
  - Clustered Monitoring wells (39)

#### 3.4.3.2 Contract Type

The SVE Well Package will be competitively bid on a unit rate (cost per foot of developed well) for each type of well. The unit rate pricing will facilitate pricing of potential changes during construction, particularly the monitoring wells. All bidders will be pre-qualified.

### 3.4.4 General Construction Package

#### 3.4.4.1 Scope of Work

The scope of work for the General Construction Package will include:

- Grading for Swales
- Concrete Swales (I, II, and III)
- Drain Boxes
- Treatment System Foundation
- Primary Power and Gas Metering Foundation
- Utilities
  - Trenching
  - Install electrical and gas line
  - Backfill
- SVE Collection Piping
- CAP Gas Treatment Skid Mounted Equipment
- SVE Treatment Skid Mounted Equipment
- Piping to Skids
- Utility Connections
- New Fence and Gates

#### 3.4.4.2 Contract Type

The General Construction Package will be a competitively bid lump sum (fixed price) subcontract. Time and material rates will be included for labor and equipment support during start-up and balancing of SVE, if those services are needed. All bidders will be pre-qualified.

### 3.4.5 Landscape and Irrigation

#### 3.4.5.1 Scope of Work

The scope of work for the Landscaping and Irrigation work package includes:

- Fumigation and Pretreatment
- Planting and/or seeding of landscaping
- Temporary irrigation

#### 3.4.5.2 Contract Type

The Landscaping and Irrigation work package will be a competitively bid lump sum (fixed) price subcontract. The scope of work will be defined well and only minimal changes would be expected. All bidders will be pre-qualified.

### 3.5 Operations, Maintenance, and Monitoring (OM&M)

#### 3.5.1 OM&M Objectives

The *Draft Operations, Maintenance, and Monitoring Manual* dated March 12, 1999 (Parsons, 1999) addresses the objectives, implementation, routine inspections/monitoring, routine maintenance, repairs, and reporting requirements to the extent possible at this time. The OM&M Manual will be finalized near the completion of construction of the remedy. The objectives of the OM&M Manual are to:

- Maintain the integrity and effectiveness of the final cover, including any repairs necessary to correct the effects of unacceptable settling, subsidence, erosion, or other events;
- Maintain and monitor the cap gas collection/treatment system including the provision of equipment descriptions, start-up procedures, listing of potential operating problems and associated remedies as well as identify the tasks for operation, maintenance, and schedule for each O&M task;
- Identify the soil vapor monitoring procedures and tasks, required data collection, and providing a description of laboratory tests, validation, and preliminary means of interpretation;
- Identify contingencies in the event of system upsets, malfunction, or air emissions are exceeded with a schedule of implementation;
- Identify health and safety requirements for completing operations and maintenance activities, safety tasks in the event of systems failure, and safety tasks necessary to address protection of nearby residents; and
- Identify continued security requirements.

### 3.5.2 Implementation

The Respondents will obtain the services of an OM&M contractor to perform the tasks described in the *OM&M Manual* (Parsons, 1999). The OM&M contractor will be selected based upon their relevant experience, available resources, and commercial competitiveness.

### 3.5.3 Operations and Maintenance Activities

OM&M activities will consist of operation of the cap gas collection/treatment system, inspections, surveys, routine maintenance, monitoring, security, and potential repairs.

Inspections are cursory and routinely implemented activities to visually observe the components of the remedial action. Examples of components that should be visually inspected include:

- Site fencing
- Surface water drainage systems
- Surface of the cap

Routine maintenance responsibilities include the following:

- Maintenance of surface drainage systems to allow normal drainage.
- Routine maintenance to the site perimeter fencing to affirm security.
- Routine repair of surface conditions leading to erosion.
- Routine removal of all surface vegetation not reflected in the Approved Design, which could result in root growth that may impact the Containment System.
- Routine control of burrowing animals from areas where the Containment System exists.
- The landscaping to prevent erosion of the cap.
- The cap gas treatment system to maintain adequate lubrication, carbon adsorption capacities, and manage condensate collection from the vapor/liquid separator.
- The drainage system to prevent interruptions of runoff control.

If fire damage is observed from routine inspections, a total site inspection shall be performed.

Surveys to monitor settlement will be performed on the structure of the cover system. Surveys will be performed periodically during the five years following construction and then relatively infrequently for the life of the system. Survey results will indicate the need for potential repairs for subsidence, settling, or other structural disturbances in the cover system.

Operations and monitoring programs for the cap gas collection/treatment system and soil-vapor monitoring will be performed as described in the OM&M Manual.

### 3.6 Deed Restrictions

The remedy (ROD) requires deed restrictions prohibiting future residential use of the Waste Pits OU and prohibits any use that would adversely impact the integrity of the cap. Within 45 days after implementation of the Remedial Action (i.e., selection of the Project Manager for the implementation), the proposed deed restrictions required by the ROD and this RAWP shall be submitted to EPA for review. Following review and incorporation of comments to the proposed deed restrictions and completion of as-builts, these institutional controls limiting land-use will be completed after construction of the remedy.

Deed restrictions will entail identification of limitations and restrictions by the RD Design Engineer, in addition to residential restrictions stipulated in the ROD. Legal descriptions of prohibited activities and structures will be drafted and recorded on the applicable deeds with the Los Angeles County Recorder. As indicated in the Order, the deed restrictions for the Waste Pits OU shall conform to the requirements set forth in paragraph 29 of the Order and be in accordance with the methodology and mechanisms specified in the RAWP.

- <sup>1.</sup> Parsons Engineering Science, GeoSyntec Consultants, and Dames & Moore, 12 February 1999, *Draft Construction Quality Assurance Plan*, Del Amo Superfund Site, Torrance, California.
- <sup>2.</sup> Dames & Moore, GeoSyntec Consultants, and Parsons Engineering Science, 19 February 1999, *Prefinal Design Report*, Del Amo Waste Pits Operable Unit.
- <sup>3.</sup> Dames & Moore, GeoSyntec Consultants, and Parsons Engineering Science, 4 June 1998, *Site Management Plan (Appendix C of Remedial Design Work Plan)*, Del Amo Waste Pits Operable Unit.



## **SECTION 7**

### **REPORT AND PROGRESS SUBMITTALS**

### **FOR REMEDIAL ACTION**

#### **7.1 OVERVIEW**

This section presents the summary of submittals for the Remedial Action (RA) at the Del Amo Superfund Site, Waste Pits Operable Unit (Waste Pits OU), the general contents of each submittal, and estimated submittal date based on the construction schedule as presented in Section 4. Three copies of each deliverable will be provided to US EPA.

#### **7.2 WORK PLAN**

This document serves as the draft RA Work Plan (RAWP) for Del Amo Superfund Site, Waste Pits Operable Unit (Waste Pits OU). The purpose of the RAWP is provided in Section 1.1, and Section 1.6 presents the work plan organization.

#### **7.3 STATUS REPORTS**

A weekly progress meeting will be held with subcontractors and the agencies (US EPA and DTSC) to review health & safety issues, construction progress, procurement and material delivery, coordination among subcontractors, and a two-week "look ahead" schedule of upcoming activities. As indicated in Section 4.1, actual progress and activity completion will be updated and recorded against the baseline construction schedule and will be modified as necessary to include on-going and any new activities requiring project coordination. Meeting minutes in the form of Project Notes will be recorded during progress meetings to capture actions, rationale, and agreed upon decisions.

The meeting minutes with an attached, updated construction schedule will be submitted to US EPA and DTSC within seven calendar days after the first progress meeting of each month.

#### **7.4 SITE MANAGEMENT PLAN**

An updated SMP has been included in Appendix C of this work plan and meets the RA Order schedule requirements for submittal. The objectives and contents are presented in Section 1.2 of the SMP.

#### **7.5 HEALTH AND SAFETY PLAN**

A draft, updated HASP was submitted to US EPA and DTSC on February 3, 1999 for review and comment, and meets the RA Order schedule requirements for submittal.

#### **7.6 SAMPLING AND ANALYSIS PLAN**

A *Sampling and Analysis Plan (SAP) for Soil Sampling and Chemical Analysis for Nitrosamines* for the Del Amo Study Area Waste Pit Operable Unit (Dames and Moore, July 2, 1999) was prepared and submitted to US EPA. This SAP will be referenced and used, if necessary, for any sampling and analysis necessary to implement the RA. In addition, the updated CQA Plan<sup>1</sup> submitted for US EPA and DTSC review on February 12, 1999 establishes a quality assurance program to verify that all the technical requirements defined in the project construction drawings and technical specifications have been met.

#### **7.7 CONSTRUCTION QUALITY ASSURANCE PLAN**

An updated, draft CQA Plan<sup>2</sup> was submitted to US EPA and DTSC on February 12, 1999 for review and comment, and meets the RA Order schedule requirements for submittal. The objectives and contents are presented in Section 1.1.2 of the CQA Plan.

#### **7.8 OPERATIONS, MAINTENANCE, AND MONITORING MANUAL**

A draft Operations, Maintenance, and Monitoring (OM&M) Manual was submitted to US EPA and DTSC on March 12, 1999 for review and comment. It is recommended that an updated OM&M Manual will be submitted 45 calendar days after installation and initial startup of the cap gas treatment system. Attachment 1 of the SOW for the RA Order indicates that the due date for submittal of the O&M Manual is "30 days before final inspection." Although much of the OM&M activities associated with the cap system will have been specifically addressed, this timeframe will assist in providing more accurate and definitive OM&M activities for the cap gas treatment system, which may arise from startup and initial operations.

The objectives and contents are provided in Sections 3.1 and 1.5 of the OM&M Manual, respectively.

#### **7.9 PREFINAL AND FINAL INSPECTION REPORTS**

Prior to site closeout, a prefinal construction conference will be held between the Construction Manager, US EPA, the respondents, and DTSC to discuss procedures

and requirements for completion and closeout. Any remaining deficiencies will be identified in a punch list. A Prefinal Inspection Report will be prepared and submitted ten days following the prefinal inspection. The report will include a list of deficiencies, schedule dates for correcting deficiencies, and a date for final inspection.

Project demobilization will commence following the prefinal inspection, with the exception of any equipment and materials required to complete outstanding construction items identified during the prefinal inspection.

Upon completion of any outstanding construction items, the US EPA, DTSC, Construction Manager, and CQA Engineer will conduct a final inspection. The final inspection will consist of a walk-through inspection using the prefinal inspection report as a checklist. If any items are still unresolved, the inspection shall be considered a prefinal inspection and an additional prefinal inspection report will be submitted.

The Quality Assurance Engineer (a California Registered Professional Engineer) will be responsible for preparing and certifying the Final Inspection Report.

#### **7.10 REMEDIAL ACTION REPORT**

A Remedial Action (RA) Report will be submitted to the US EPA following the completion of the remedial construction and approximately 30 calendar days after final inspection. The RA Report will be submitted to the US EPA RPM for review and approval. The RA Report will include the following:

- Summarize the chronology of RA events,
- Performance standards and construction quality control,
- Construction activities,
- Final inspection,
- Certification that the remedy is operational and functional, and
- Summarize the content and schedule for the OM&M Manual.

In addition to these items, the Remedial Action Report will contain documentation of the final disposition of any off-site waste shipments.

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<sup>1</sup> Parsons Engineering Science, GeoSyntec Consultants, and Dames & Moore, 12 February 1999, *Draft Construction Quality Assurance Plan*, Del Amo Superfund Site, Torrance, California.

<sup>2</sup> Parsons Engineering Science, GeoSyntec Consultants, and Dames & Moore, 12 February 1999, *Draft Construction Quality Assurance Plan*, Del Amo Superfund Site, Torrance, California.